

PRIOR ART

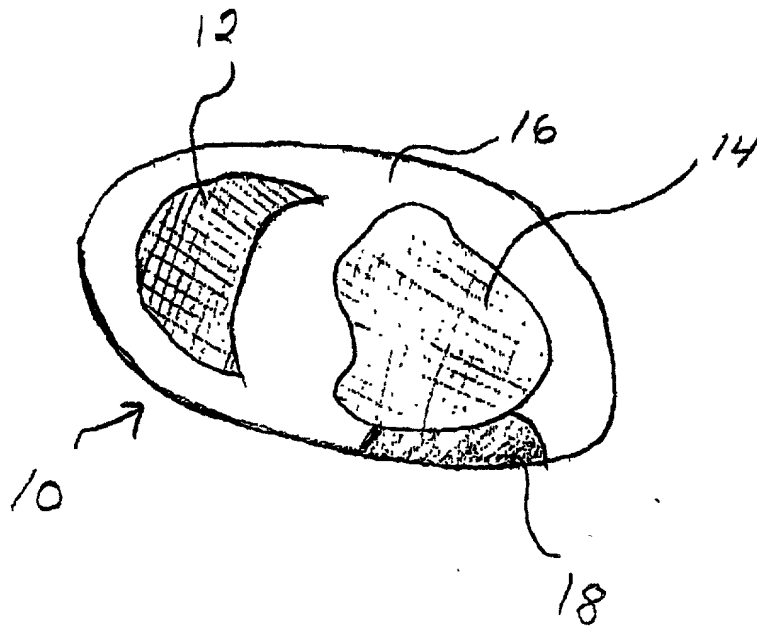


Fig. 1

400446930-004000

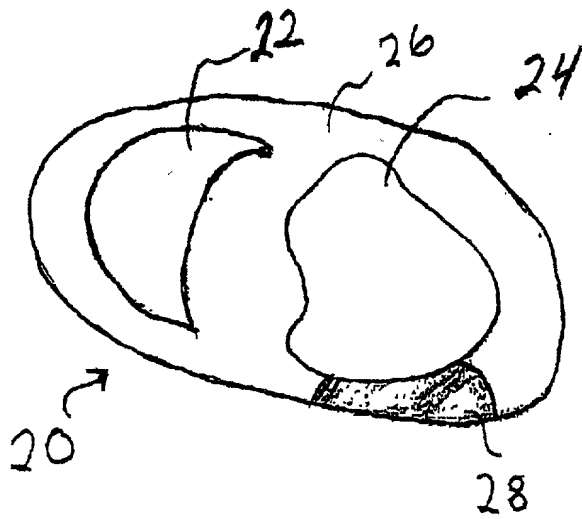


Fig. 2

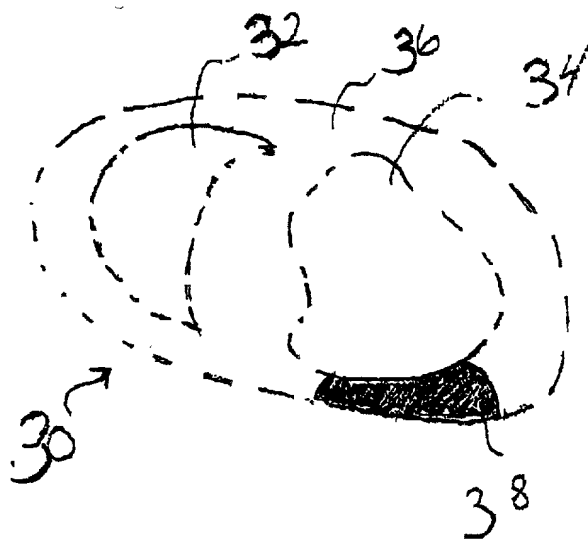


Fig. 3

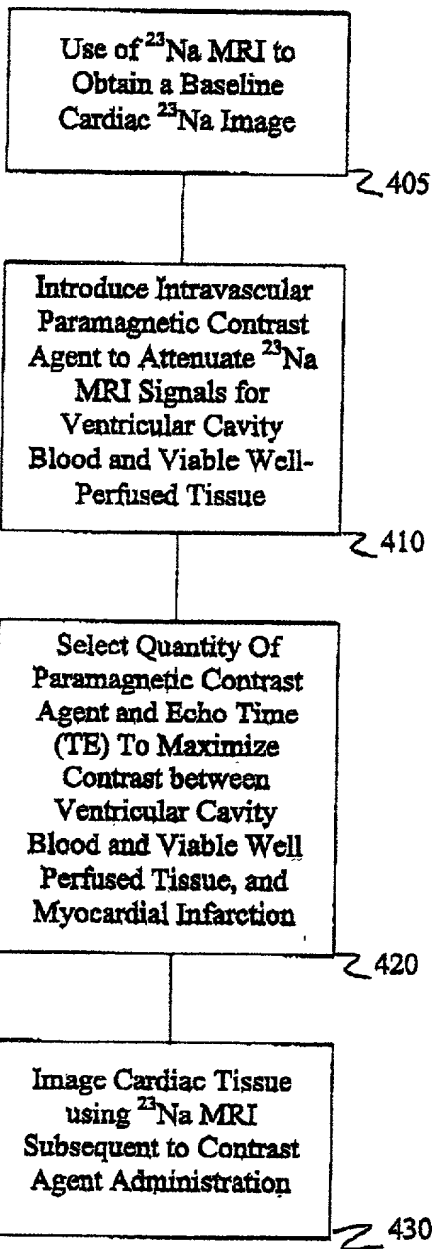


Fig. 4

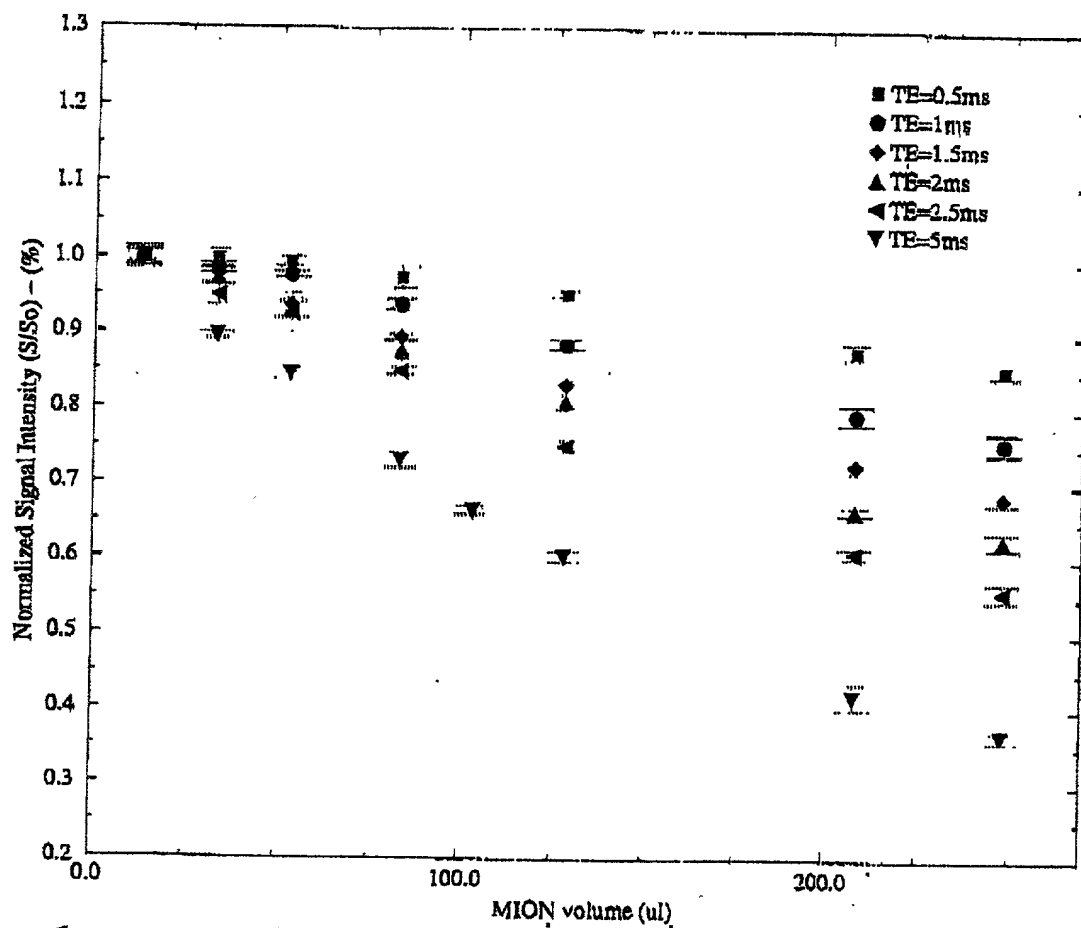
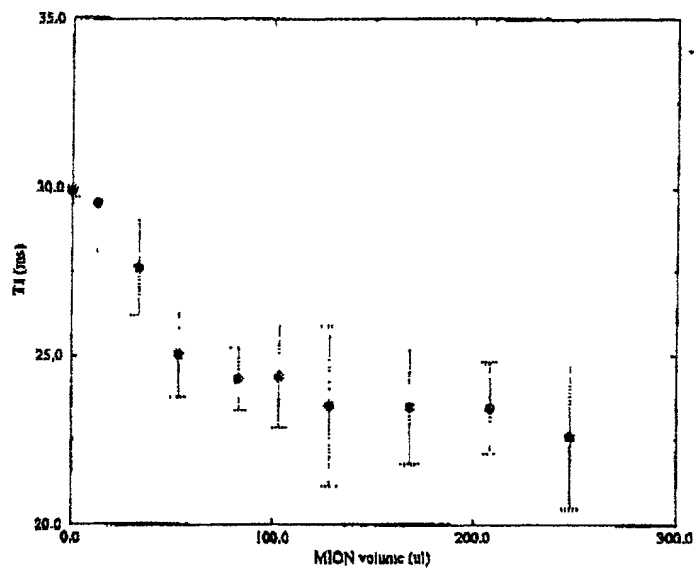


Figure 5: Normalized signal intensity variation with MION volume at different echo times (0.37-5 ms) in 80 ml of isolated canine blood. Larger MION volume and echo times lead to larger signal intensity reductions.

(A)



(B)

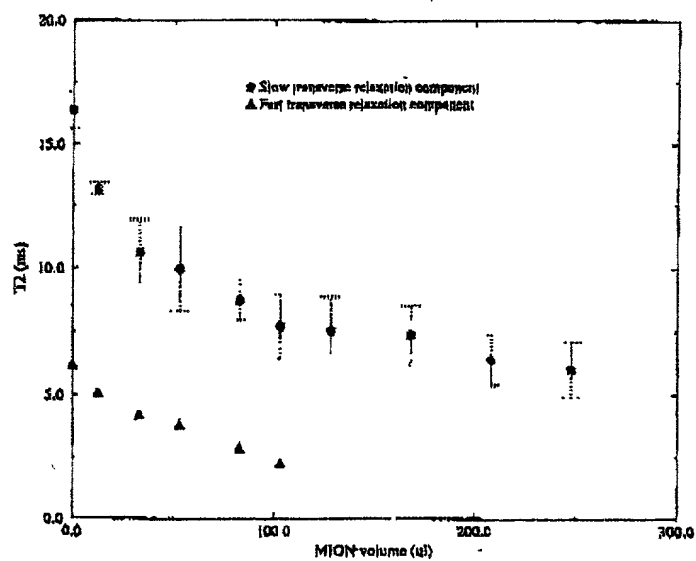


Figure 6 Blood (A) T_1 and (B) T_2 variation curves vs. MION volume in 80 ml of canine blood *in vitro*.

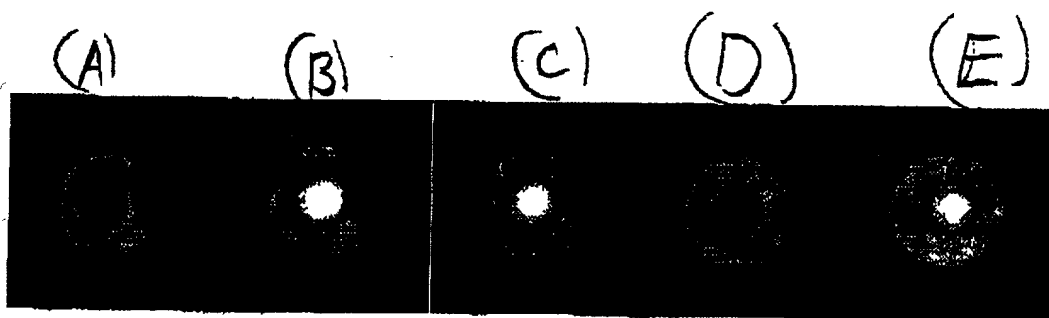


Figure 7 Two compartment annular cylindrical phantom. (A) Coronal image of the agarose gel mixed with NaCl (65 mM) at $TE=0.37$ ms; identical image with added blood at (B) $TE=0.37$ ms, and at (C) $TE=5$ ms. (D) Post-contrast image at $TE=5$ ms and at (E) $TE=0.37$ ms.



Figure 8 (A) Pre- and (B) post-contrast sequential contiguous axial ^{23}Na images from an *in vivo* dog heart. Left ventricular blood and kidney regions appear hyper-intense due to their higher sodium content.

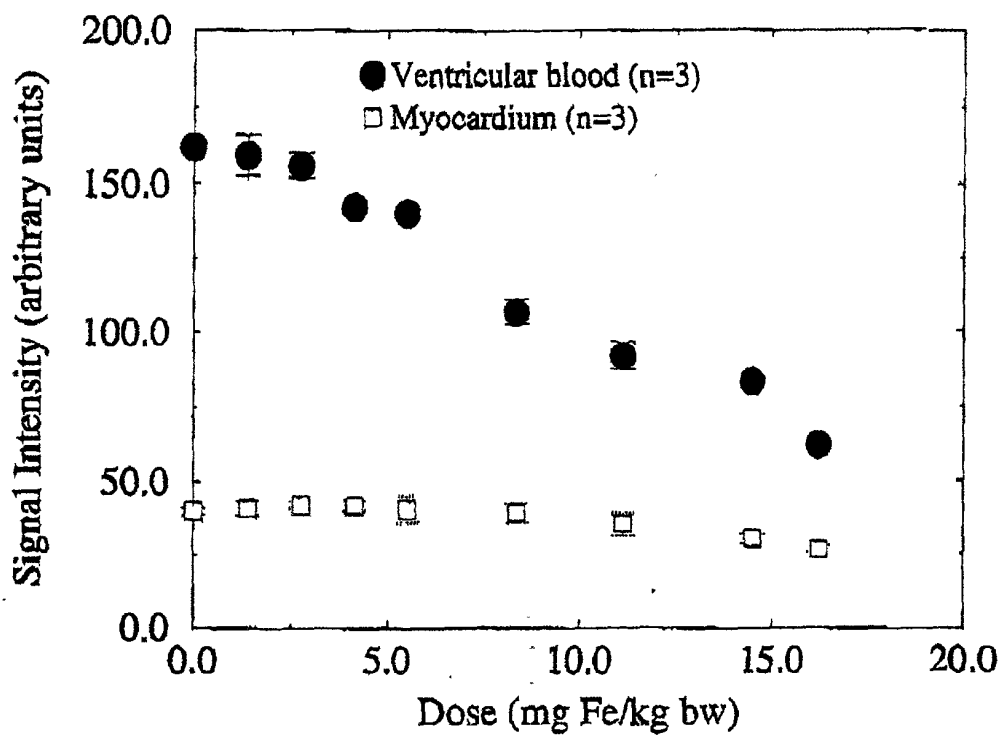


Figure 8: Signal variation of myocardial and ventricular blood regions with MION dose in *in vivo* dog hearts (TE=5 ms). Standard deviations represent signal variability from the three animals studied.



Figure 5 (A) Pre-contrast short axis ^{23}Na MRI of an infarcted dog at TE=0.37 ms, and post-contrast images at (B) TE=0.37 ms, and at (C) TE=5 ms. (D) Corresponding TTC-stained slice (arrows indicate the location of MI).